



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Arnthor Aearsson, Viggó T. Marteinsson, Gudmundur O. Hreggvidsson,
Jakob K. Kristjánsson and Olafur H. Fridjonsson

Continuation-in-part application of and claims priority to
Iceland Application No. 5863, filed February 23, 2001

Title: METHOD OF OBTAINING PROTEIN DIVERSITY

Date: <u>June 11, 2001</u>
EXPRESS MAIL LABEL NO. <u>EL552572 594 US</u>

INFORMATION DISCLOSURE STATEMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

This Information Disclosure Statement is submitted:

- ☐ under 37 CFR 1.129(a), or
(First/Second submission after Final Rejection)
- ☒ under 37 CFR 1.97(b), or
(Within any one of the following time periods: three months of filing national application (other than a CPA) or date of entry of the national stage in an international application; or before the mailing date of a first office action on the merits in a non-provisional application, including a CPA, or a Request for Continued Examination).
- ☐ under 37 CFR 1.97(c) together with either:
- ☐ a Statement under 37 CFR 1.97(e), as checked below, or
- ☐ a \$180.00 fee under 37 CFR 1.17(p), or
(After the 37 CFR 1.97(b) time period, but before final action or notice of allowance, whichever occurs first)
- ☐ under 37 CFR 1.97(d) together with:
- ☐ a Statement under 37 CFR 1.97(e), as checked below, and
- ☐ a \$180.00 fee under 37 CFR 1.17(p), or
(Filed after final action or notice of allowance, whichever occurs first, but on or before payment of the issue fee)
- ☐ under 37 CFR 1.97(i):
Applicant requests that the IDS and cited reference(s) be placed in the application filewrapper.
(Filed after payment of issue fee)

Statement Under 37 CFR 1.97(e)

- ☐ Each item of information contained in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement; or
- ☐ No item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the undersigned, after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of this Information Disclosure Statement.

Statement Under 37 CFR 1.704(d) (Patent Term Adjustment)

Applies to original applications (other than design) filed on or after May 29, 2000

- ☐ Each item of information contained in the Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart application and this communication was not received by any individual designated in § 1.56(c) more than thirty days prior to the filing of the Information Disclosure Statement.
- ☒ Enclosed herewith is form PTO-1449:
 - ☒ Copies of the cited references are enclosed.
 - ☐ Copies of cited references are enclosed except those entered in prior application, U.S. Application No. [] to which priority under 35 U.S.C. 120 is claimed. [The earlier application contains copies of the cited references.]
 - ☐ The listed references were cited in the enclosed International Search Report in a counterpart foreign application.
 - ☐ The "concise explanation" requirement (non-English references) for reference(s) [] under 37 CFR 1.98(a)(3) is satisfied by:
 - ☐ the explanation provided on the attached sheet.
 - ☐ the explanation provided in the Specification.
 - ☐ submission of the enclosed International Search Report.
 - ☐ the enclosed English language abstract.

[X] Applicant requests that the following pending application be considered:

Examiner's
Initials

U.S. Patent Application No. 09/770,771 by Viggó T. Marteinsson *et al.*, filed January 26, 2001, Docket No.: 2739.2004-000

Examiner

Date

- [X] A copy of the above-cited application, including the current claims, is enclosed.
- [] A copy of each above-cited application, including the current claims, is enclosed, except those entered in prior application, U.S. Application No. [], to which priority under 35 U.S.C. 120 is claimed.

The Examiner is requested to return a copy of the above list of pending applications indicating which references were considered with the next office communication.

It is requested that the information disclosed herein be made of record in this application.

Method of payment:

- [] A check for the fee noted above is enclosed, or the fee has been included in the check with the accompanying Reply. A copy of this Statement is enclosed.
- [] Please charge Deposit Account 08-0380 in the amount of \$[]. A copy of this Statement is enclosed.
- [X] Please charge any deficiency in fees and credit any overpayment to Deposit Account 08-0380.

Respectfully submitted,

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Dated: June 11, 2001

PTO-1449 REPRODUCED		ATTORNEY DOCKET NO. 2739.2004-001		APPLICATION NO. CIP of Iceland No. 5863			
INFORMATION DISCLOSURE CITATION IN AN APPLICATION June 11, 2001 (Use several sheets if necessary)		APPLICANT Arnthor Aearsson, et al.					
		FILING DATE		GROUP			
U.S. PATENT DOCUMENTS							
EXAM- INER INI- TIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB- CLASS	FILING DATE IF APPROPRIATE
	AA	6,001,574	12/14/99	Short et al.	435	6	
	AB	5,763,239	6/9/98	Short et al.	435	172	
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)							
	AR	Hansson, Malin, "The development of an amplification method using only one gene specific primer for isolation of α -amylase genes directly from high complexity DNA," Lund Institute of Technology, Student Thesis, February 1999.					
	AS	Thompson, J.D., et al., "CLUSTAL W: improving the sensitivity of progressive multiple sequence alignment through sequence weighting, position-specific gap penalties and weight matrix choice," <i>Nucl. Acids Research</i> 22(22):4673-4680 (1994).					
	AT	Woo, S.-S., et al., "Construction and characterization of a bacterial artificial chromosome library of <i>Sorghum bicolor</i> ," <i>Nucl. Acids Research</i> 22(22):4922-4931 (1994).					
	AU	Buckling, A., et al., "Disturbance and diversity in experimental microcosms," <i>Nature</i> 408: 961-964 (2000).					
	AV	Bateman, A., et al., "Pfam 3.1: 1313 multiple alignments and profile HMMs match the majority of proteins," <i>Nucl. Acids Research</i> 27(1):260-262 (1999).					
	AW	Connell, J.H., "Diversity in Tropical Rain Forests and Coral Reefs," <i>Science</i> 199:1302-1309 (1978).					
	AX	Rose, T.M., et al., "Consensus-degenerate hybrid oligonucleotide primers for amplification of distantly related sequences," <i>Nucl. Acids Research</i> 26(7):1628-1635 (1998).					
	AY	Takehiko, Y., "Enzyme Chemistry and Molecular Biology of Amylases and Related Enzymes," The Amylase Research Society of Japan, eds. (Boca Raton, Ann Arbor, London Tokyo: CRC Press) pp. 83-99 (1994).					
	AZ	Fry, J.C., "Oligotrophs," In <i>Microbiology of extreme environments</i> , C. Edwards eds., (Milton Keynes: Open University Press) pp. 94-116 (1990).					
	AR2	Santegoeds, C.M., et al., "Denaturing Gradient Gel Electrophoresis Used To Monitor the Enrichment Culture of Aerobic Chemoorganotrophic Bacteria from a Hot Spring Cyanobacterial Mat," <i>Applied and Environmental Microbiology</i> 62(11):3922-3928(1996).					
	AS2	Konradsdottir, M., et al., "In situ Enrichment of Thermophilic Acetate-Utilizing Bacteria," <i>System. Appl. Microbiol.</i> 14:190-195 (1991).					
EXAMINER				DATE CONSIDERED			

PC812 U.S. PTD
 09/876423
 86/11701

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FOREIGN PATENT DOCUMENTS							
		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION YES NO
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)							
	AT2	Rondon, M.R., et al., "Toward functional genomics in bacteria: Analysis of gene expression in <i>Escherichia coli</i> from a bacterial artificial chromosome library of <i>Bacillus cereus</i> ," <i>Proc. Natl. Acad. Sci. USA</i> 96:6451-6455 (1999).					
	AU2	Rondon, M.R., et al., "Cloning the Soil Metagenome: a Strategy for Accessing the Genetic and Functional Diversity of Uncultured Microorganisms," <i>Applied and Environmental Microbiology</i> , 66(6):2541-2547 (2000).					
	AV2	Reysenbach, A.-L., et al., "Differential Amplification of rRNA Genes by Polymerase Chain Reaction," <i>Applied and Environmental Microbiology</i> , 58(10):3417-3418 (1992).					
	AW2	Reysenbach, A.-L., et al., "Phylogenetic Analysis of the Hyperthermophilic Pink Filament Community in Octopus Spring, Yellowstone National Park," <i>Applied and Environmental Microbiology</i> , 60(6):2113-2119 (1994).					
	AX2	Morris, D.D., et al., "Correction of the β -Mannanase Domain of the <i>celC</i> Pseudogene from <i>Caldocellulosiruptor saccharolyticus</i> and Activity of the Gene Product on Kraft Pulp," <i>Applied and Environmental Microbiology</i> , 61(6):2262-2269 (1995).					
	AY2	Hugenholtz, P., et al., "Novel Division Level Bacterial Diversity in a Yellowstone Hot Spring," <i>Journal of Bacteriology</i> 180(2):366-376 (1998).					
	AZ2	Großkopf, R., et al., "Diversity and Structure of the Methanogenic Community in Anoxic Rice Paddy Soil Microcosms as Examined by Cultivation and Direct 16S rRNA Gene Sequence Retrieval," <i>Applied and Environmental Microbiology</i> , 64(3):960-969 (1998).					
	AR3	Skirnisdottir, S., et al., "Influence of Sulfide and Temperature on Species Composition and Community Structure of Hot Spring Microbial Mats," <i>Applied and Environmental Microbiology</i> , 66(7):2835-2841 (2000).					
	AS3	Marteinsson, V.T., et al., "In situ enrichment and isolation of thermophilic microorganisms from deep-sea vent environments," <i>Canadian Journal of Microbiology</i> 43(7):694-697 (1997).					
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	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB- CLASS TRANSLATION YES NO
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)					
	AT3	Fridjonsson, O., et al., "The structure of the α -galactosidase gene loci in <i>Thermus brockianus</i> ITI360 and <i>Thermus thermophilus</i> TH125," <i>Extremophiles</i> 4:23-33 (2000).			
	AU3	DeLong, E.F., "Archaea in coasal marine environments," <i>Proc. Natl. Acad. Sci. USA</i> 89:5685-5689 (1992).			
	AV3	Barns, S.M., et al., "Remarkable archael diversity detected in a Yellowstone National Park hot spring environment," <i>Proc. Natl. Acad. Sci. USA</i> 91:1609-1613 (1994).			
	AW3	Amann, R.I., "Phylogenetic Identification and In Situ Detection of Individual Microbial Cells without Cultivation," <i>Microbiological Reviews</i> 59(1):143-169 (1995).			
	AX3	Reysenbach, A.-L., "Microbial diversity at 83°C in Calcite Springs, Yellowstone National Park: another environment where the Aquificales and "Korarchaeota" coexist," <i>Extremophiles</i> 4:61-67 (2000).			
	AY3	Stainthorpe, A.C. and Williams, R.A.D., "Isolation and Properties of <i>Clostridium thermocellum</i> from Icelandic Hot Springs," <i>International Journal of Systematic Bacteriology</i> 38(1):119-121 (1988).			
	AZ3	Roszak, D.B. and Colwell, R.R., "Survival Strategies of Bacteria in the Natural Environment," <i>Microbiological Reviews</i> 51(3):365-379 (1987).			
	AR4	Huber, R., et al., " <i>Thermocrinis ruber</i> gen. nov., sp. nov., a Pink-Filament-Forming Hyperthermophilic Bacterium Isolated from Yellowstone National Park," <i>Applied and Environmental Microbiology</i> , 64(10):3576-3583 (1998).			
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